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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,807	10/10/2003	Adwait Ratnaparkhi	M61.12-0518	2162

27366 7590 03/23/2006

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EXAMINER	
FERNANDEZ RIVAS, OMAR F	
ART UNIT	**PAPER NUMBER**
2129	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/683,807	RATNAPARKHI ET AL.
	Examiner	Art Unit
	Omar F. Fernández Rivas	2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/1/2004*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-30 are pending on this application.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: on paragraph 16, there is cited a system environment **100**, which is not shown in the drawing. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. For a claimed invention to be statutory the claimed invention must produce a useful, concrete, and tangible result. The Courts have found that subject matter that is not a practical application or use of an idea, a law of nature or a natural phenomenon is not patentable. See, e.g., *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. (20 Wall.) 498, 507 (1874) ("idea of itself is not patentable, but a new device by which it may be made practically useful is"); *Warmerman*, 33 F.3d at 1360, 31 USPQ2d at 1759.

For a claimed invention to be statutory under 35 U.S.C. 101, the claims must have the FINAL RESULT (not the steps) produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/ non-unpredictable), AND tangible (real world/ non-abstract) result.

If the specification discloses a practical application but the claim is broader than the disclosure such that it does not require the practical application, then the claim must be amended. A claim that recites a computer that solely calculates a mathematical formula is not statutory.

In the present case, claim 1 describes a system for performing a mapping between a query and a task. The claim describes how these mappings are produced. However, the result of these mappings is not provided to an outside process or presented to the user in a way that the results provided by the invention are useful and tangible to a user. The claim cites a graphical user interface ***configured*** to display the queries and the tasks, but no mention is made as to actually displaying the final result obtained by the system. Claims 2-14 fail to solve this problem and are therefore rejected on the same basis as claim 1.

Claims 15-26 are directed to a method for performing the same tasks as claim 1-14. The claims lack from usefulness and tangibility as set forth above regarding claims 14-14 and are therefore rejected on the same basis as claims 1-14.

Claims 27-30 are directed to a method of performing a task similar to claims 1-14. The claims. The claims lack from usefulness and tangibility as set forth above regarding claims 14-14 and are therefore rejected on the same basis as claims 1-14.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-16 and 18-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Fries et al (US Patent #6,751,606, referred to as **Fries**).

Claims 1, 15 and 26

Fries anticipates an annotating system for aiding a user in performing bulk mapping of queries to tasks to obtain training data for training a search component

(**Fries**: abstract, L1-5; C21, L24-67), the annotating system comprising: a query log containing queries which have previously been submitted to a search engine (**Fries**: C9, L5-15; C23, L29-42; Examiner's Note (EN): a record of past searches is a query log of queries previously submitted); a task list containing a plurality of possible tasks (**Fries**: C2, L20-28; C7, L36-59; C9, L22-38; C23, L29-42; C29, claim 2; EN: presenting a list of documents, topics, web pages or words is a task list); a machine learning component which suggests best guess query-to-task mappings as a function of the training data (**Fries**: C21, L5-67; C22, L1-30; Fig. 17; EN: a SVM is a machine learning component. Goal vectors are queries and goal surfaces are tasks); and a graphical user interface generating component configured to display at least some of the plurality of query entries in the query log and at least some of the plurality of tasks in the task list in a manner which associates the suggested best guess query-to-task mappings (**Fries**: C5, L52-65; C8, L62-67, C9, L1-38, Figs. 7A-7C).

Claim 2

Fries anticipates the machine learning component is configured to suggest, for each of a plurality of query entries corresponding to the query log, a best guess task for potential query-to-task mapping as a function of the training data (**Fries**: C2, L29-37; C5, L52-65; C21, L24-67, C22, L1-29; Fig. 17; EN: the suggestions (best guesses) are made after the system has been trained).

Claim 3

Fries anticipates the graphical user interface generating component is configured to display the plurality of query entries in the query log in a manner which associates each of the displayed plurality of query entries with its corresponding suggested best guess task (**Fries**: C5, L52-65; C8, L62-67, C9, L1-38; Figs. 7A-7C).

Claims 4 and 16

Fries anticipates the graphical user interface generating component is further configured to receive a first type of input from the user when the user wishes to map a particular query entry to its corresponding suggested best guess task, and wherein upon receipt of the first type of input through the graphical user interface the machine learning component updates the training data by mapping the particular query entry to the suggested best guess task (**Fries**: C8, L62-67, C9, L1-38; C22, L22-30; EN: training the SVM based on queries entered by the user and modifying the vector space is modifying training data).

Claim 5

Fries anticipates the graphical user interface generating component is further configured to receive a second type of input from the user when the user wishes to view a list of next best guess tasks for the particular query entry for potential mapping (**Fries**: C9, L22-38; C29, claim 2; EN: activating a button is a second input).

Claims 6 and 18

Fries anticipates each of the plurality of query entries corresponding to the query log is a query bundle, and wherein each query bundle represents a plurality of queries in the query log which have been bundled together (**Fries**: C9, L5-15; EN: the list of past searches is a query bundle).

Claims 7 and 19

Fries anticipates upon receipt of the first type of input through the graphical user interface the machine learning component updates the training data by mapping each of the plurality of queries, represented by the query bundle, to the suggested best guess task (**Fries**: C21, L24-67, C22, L1-29; EN: a corpus of queries is a query bundle).

Claim 8

Fries anticipates the suggested best guess for each query bundle is a weighted average of best guesses for each of the plurality of queries represented by the query bundle (**Fries**: C22, L5-42; EN: a probability is a weighted average of the best guess).

Claims 9 and 20

Fries anticipates the graphical user interface generating component is further configured to receive a second type of input from the user when the user wishes to view a list of queries represented by a particular query bundle, and in response to receipt of the second type of input the graphical user interface generating component being configured to display the list of queries represented by the query bundle (**Fries**: C9, L5-15; Fig. 7B; EN: activating the pull-down menu is a second type of input).

Claims 10 and 21

Fries anticipates the graphical user interface generating component is further configured to display the task list (**Fries**: abstract, L1-16; C5, L52-65; C9, L21-38).

Claims 11 and 22

Fries anticipates the graphical user interface generating component is further configured to receive a second type of input from the user when the user wishes to map the particular query entry to a task, from the displayed task list, which differs from the suggested best guess task, and wherein upon receipt of the second type of input through the graphical user interface the machine learning component is configured to update the training data by mapping the particular query entry to the task from the displayed task list (**Fries**: C22, L22-30; C23, L11-50, Fig. 17; EN: selecting a goal from the list can be selecting a task that differs from the best guess task. By training based on the selected goal, a mapping is made between the goal (query) and the vector space (task list).

Claims 12 and 23

Fries anticipates upon updating the training data by mapping the particular query entry to a task, the machine learning component is configured to automatically update the best guess task for each of the remaining ones of the plurality of query entries as a function of the updated training data (**Fries**: C23, L29-50).

Claims 14 and 25

Fries anticipates the machine learning component is configured to suggest, for each of the plurality of possible tasks in the task list, a list of queries from the query log which are probable for query-to-task mapping as a function of the training data (**Fries**: C23, L29-50).

Claim 17

Fries anticipates receiving a second type of input from the user when the user wishes to view a list of next best guess tasks for the particular query entry for potential mapping (**Fries**: C9, L22-38; C29, claim 2; EN: activating a button is a second input).

and displaying the list of next best guess tasks, determined as functions of the training data using the machine learning component, for the particular query entry (**Fries**: C22, L10-55).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 27-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Subramaniam et al (US Patent #6,728,702, referred to as **Subramaniam**).

Claims 27 and 30

Subramaniam anticipates a method of performing bulk mapping of queries to tasks to obtain training data for training a search component (**Subramaniam**: C39, claim 1), the method comprising: downloading a copy of a classifier model from a server to a local computer (**Subramaniam**: C36, L39-54; EN: the search index downloaded from the server is a classifier model); performing query-to-task mapping at the local computer based upon guesses generated using the downloaded classifier model (**Subramaniam**: C37, L18-30; Figs. 46-49) ; updating a local training data store based upon the performed query-to-task mapping at the local computer (**Subramaniam**: C6, L17-54; EN: updating the local data is updating the training data); and updating a server training data store, used to create the classifier model, with the local training data store (**Subramaniam**: C6, L17-54; EN: propagating the changes made on local data to the server by synchronization is updating the server training data store with the local training data).

Claim 28

Subramaniam anticipates updating the classifier model on the server using the updated server training data store (**Subramaniam**: C6, L17-54; EN: If the server database is updated, the classifier model is updated with the new data on the database).

Claim 29

Subramaniam anticipates repeating the steps of the method for each of a plurality of local computers such that the server training data store is updated using local training data stores from each of the plurality of computers (**Subramaniam**: C6, L17-28; EN: if each mobile client synchronizes its local database with the server database, the steps of this synchronization is repeated for all of the clients).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fries as set forth above in view of Shanahan et al (US Patent Application #09/221,663, referred to as **Shanahan**).

Claim 13

Fries does not teach the machine learning component is a Naïve Bayes Classifier.

Shanahan teaches the machine-learning component is a Naïve Bayes Classifier (**Shanahan**, paragraph 371, L1-14).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Fries by incorporating a Naïve Bayes Classifier as the machine learning component for the purpose of having a system that can be efficiently trained to classify and relate objects based on probability models.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rao US Patent #6,751,614

Szabo US Patent #6,868,525

8. Claims 1-30 are rejected.

Correspondence Information

9. Any inquires concerning this communication or earlier communications from the examiner should be directed to Omar F. Fernández Rivas, who may be reached Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at (571) 272-2589 or email omar.fernandezrivas@uspto.gov. If you need to send an Official facsimile transmission, please send it to (571) 273-8300.

If attempts to reach the examiner are unsuccessful the Examiner's Supervisor, David Vincent, may be reached at (571) 272-3080.

Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

Omar F. Fernández Rivas
Patent Examiner
Artificial Intelligence Art Unit 2129
United States Department of Commerce
Patent & Trademark Office

Thursday, March 16, 2006

OFR